

209. The method of claim **192**, wherein determining the presence, absence, identity and/or level of the one or more glycans comprises subjecting the sample to mass spectrometry.

210. The method of claim **192**, wherein determining the presence, absence, identity and/or level of glycans comprises subjecting the sample to liquid chromatography (LC) followed by mass spectrometry.

211. The method of claim **210**, wherein the liquid chromatography is hydrophilic interaction chromatography (HILIC).

212. The method of claim **209**, wherein the mass spectrometry comprises ESI-MS or-tandem mass spectrometry (MS/MS).

213. The method of claim **192**, wherein the determining the presence, absence, identity and/or level of the one or more glycans comprises analyzing one or more glycan structure or structures for branching, linkages between monosaccharides and/or location of monosaccharides.

214. The method of claim **192**, wherein the one or more glycans comprises high mannose N-glycans, bisected and Sialyl Lewis^x N-glycans, and/or N-acetyl lactosamine containing N-glycans.

215. The method of claim **192**, wherein the cells comprise stem cells, said stem cells comprising immune cells, white blood cells, peripheral blood mononuclear cells (PBMC), lymphocytes, or unfractionated T cells.

216. The method of claim **192**, wherein the cells comprise T cells that are CD4+ and/or CD8+ T cells or the test cell composition comprises T cells that are CD4+ and/or CD8+ T cells.

217. The method of claim **192**, wherein the cells express a recombinant receptor or the test composition comprises cells expressing a recombinant receptor.

218. The method of claim **217**, wherein the recombinant receptor is or comprises a chimeric receptor and/or a recombinant antigen receptor.

219. The method of claim **217**, wherein the recombinant receptor is or comprises a T cell receptor or a chimeric antigen receptor (CAR).

220. A method of assaying a cell composition, the method comprising:

(a)(i) assessing the cell surface glycan profile in a sample from a test cell composition comprising a plurality of cells according to the method of claim **1** and (a)(ii) comparing the cell surface glycan profile of the sample to the cell surface glycan profile of a reference sample; or

(b) comparing the cell surface glycan profile of a sample compared to the cell surface profile of a reference sample, wherein cell surface glycan profile of the sample is or has been determined according to the method of claim **1** from a test cell composition comprising a plurality of cells.

221. A method for manufacturing a cell composition, comprising

incubating and/or contacting an input composition comprising a plurality of cells with one or more agents and/or under one or more conditions thereby generating the cell composition,

wherein the cell composition comprises one or a plurality of cells that are genetically, phenotypically, and/or functionally different from one or a plurality of cells from the input composition, and

wherein the cell composition comprises one or a plurality of cells that comprise a cell surface glycan profile comprising one or more target glycans and/or each of the one or more target glycans in the cell surface glycan profile differs by no more than 25% from the cell surface glycan profile or each of the one or more target glycans to the total glycans present in a reference sample, wherein the cell surface glycan profile comprises glycans released from the surface of cells in the cell composition.

222. The method of claim **221**, wherein the cell surface glycan profile or the one or more target glycans is determined according to the method of claim **1**.

223. The method of claim **221**, wherein the cell composition comprises cells present in an apheresis product or a leukapheresis product or cells derived therefrom.

224. The method of claim **221**, wherein the cells comprise stem cells, that are immune cells, white blood cells, peripheral blood mononuclear cells (PBMC), lymphocytes, or unfractionated T cells.

225. The method of claim **221**, wherein the cells comprise T cells that are CD4+ and/or CD8+ T cells.

226. A method for screening one or more test agents or conditions on a cell composition, comprising:

(a)(i) assessing a cell surface glycan profile in a sample from a test cell composition, wherein the test cell composition is or is derived from a source composition that has been incubated or treated in the presence of one or more test agents or conditions and (a)(ii) comparing the cell surface glycan profile of the sample to the cell surface glycan profile of a reference sample, the reference sample comprising one or more target glycans; or
(b) comparing the cell surface glycan profile of a sample compared to the cell surface glycan profile of a reference sample, wherein the sample is from a test cell composition that is or is derived from a source composition that has been incubated or treated in the presence of one or more test agents or conditions.

227. The method of claim **226**, wherein the cell surface glycan profile is determined according to the method of claim **192**.

228. A method of detecting a presence, absence, identity, and/or level of one or more substances in a cell composition, the method comprising:

(a) assessing the cell surface glycan profile in a sample from a test cell composition comprising a plurality of cells according to the method of claim **192**, wherein the plurality of cells are from or are derived from a cell type; and
(b) identifying one or more non-native glycans in the cell surface glycan profile that are not synthesized and/or expressed by cells of the cell type.

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